FIG. 1

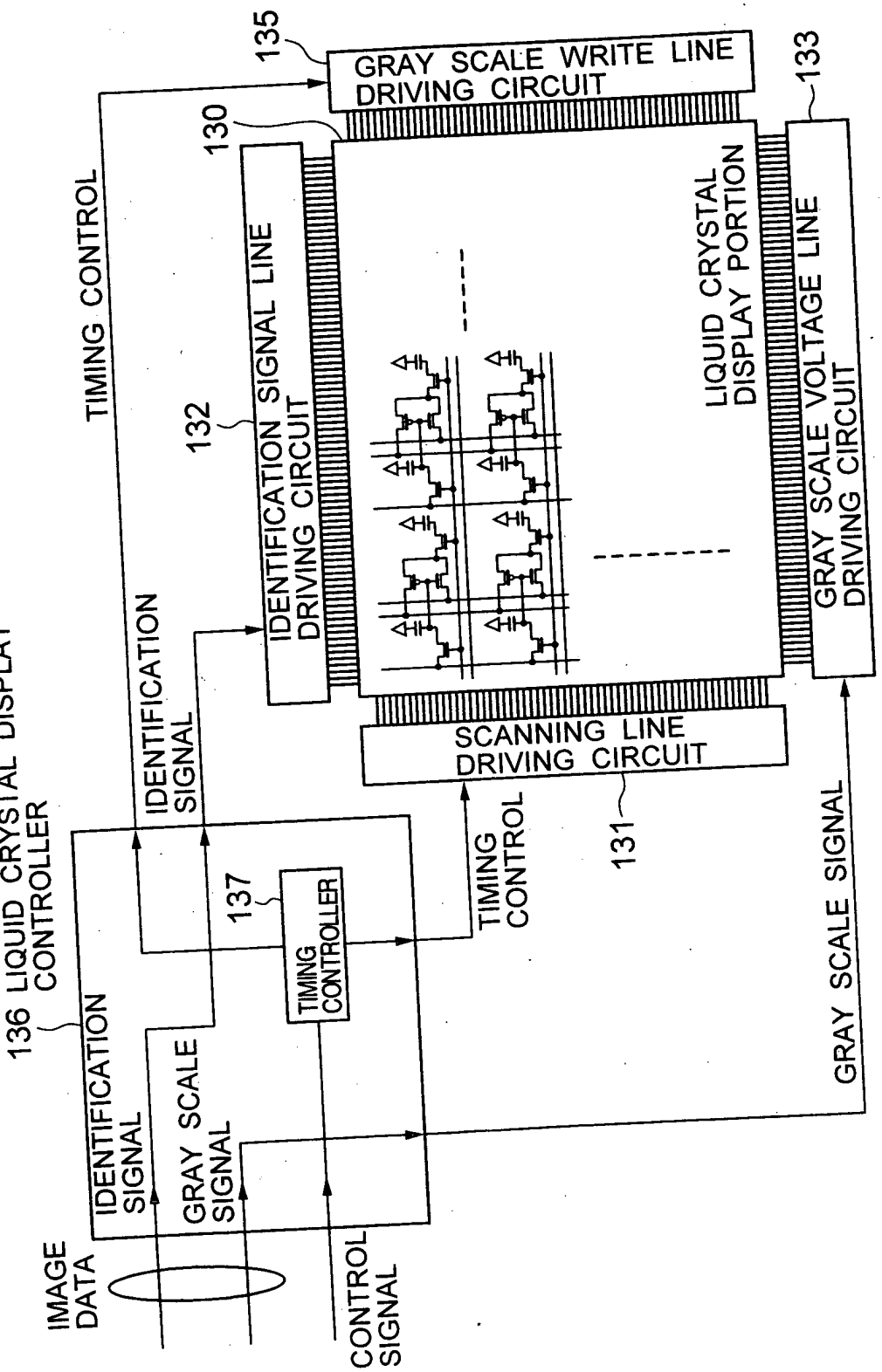

135
GRAY SCALE WRITE LINE DRIVING CIRCUIT
133
130
TIMING CONTROL
IDENTIFICATION SIGNAL LINE DRIVING CIRCUIT
132
LIQUID CRYSTAL DISPLAY PORTION
GRAY SCALE VOLTAGE LINE DRIVING CIRCUIT
IDENTIFICATION SIGNAL
SCANNING LINE DRIVING CIRCUIT
136 LIQUID CRYSTAL DISPLAY CONTROLLER
137
TIMING CONTROLLER
TIMING CONTROL
131
IDENTIFICATION SIGNAL
GRAY SCALE SIGNAL
GRAY SCALE SIGNAL
IMAGE DATA
CONTROL SIGNAL

FIG. 2

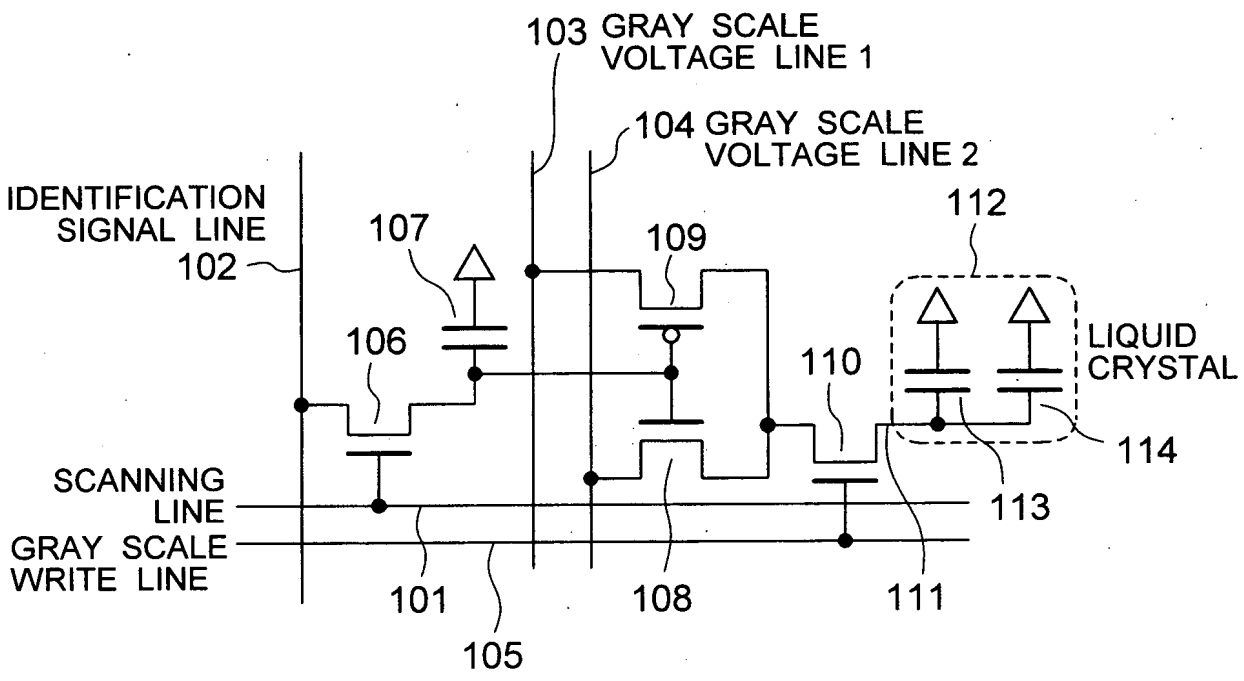

103 GRAY SCALE VOLTAGE LINE 1
104 GRAY SCALE VOLTAGE LINE 2
IDENTIFICATION SIGNAL LINE
102
107
109
112
106
110
LIQUID CRYSTAL
114
SCANNING LINE
113
GRAY SCALE WRITE LINE
101
108
111
105

FIG. 3

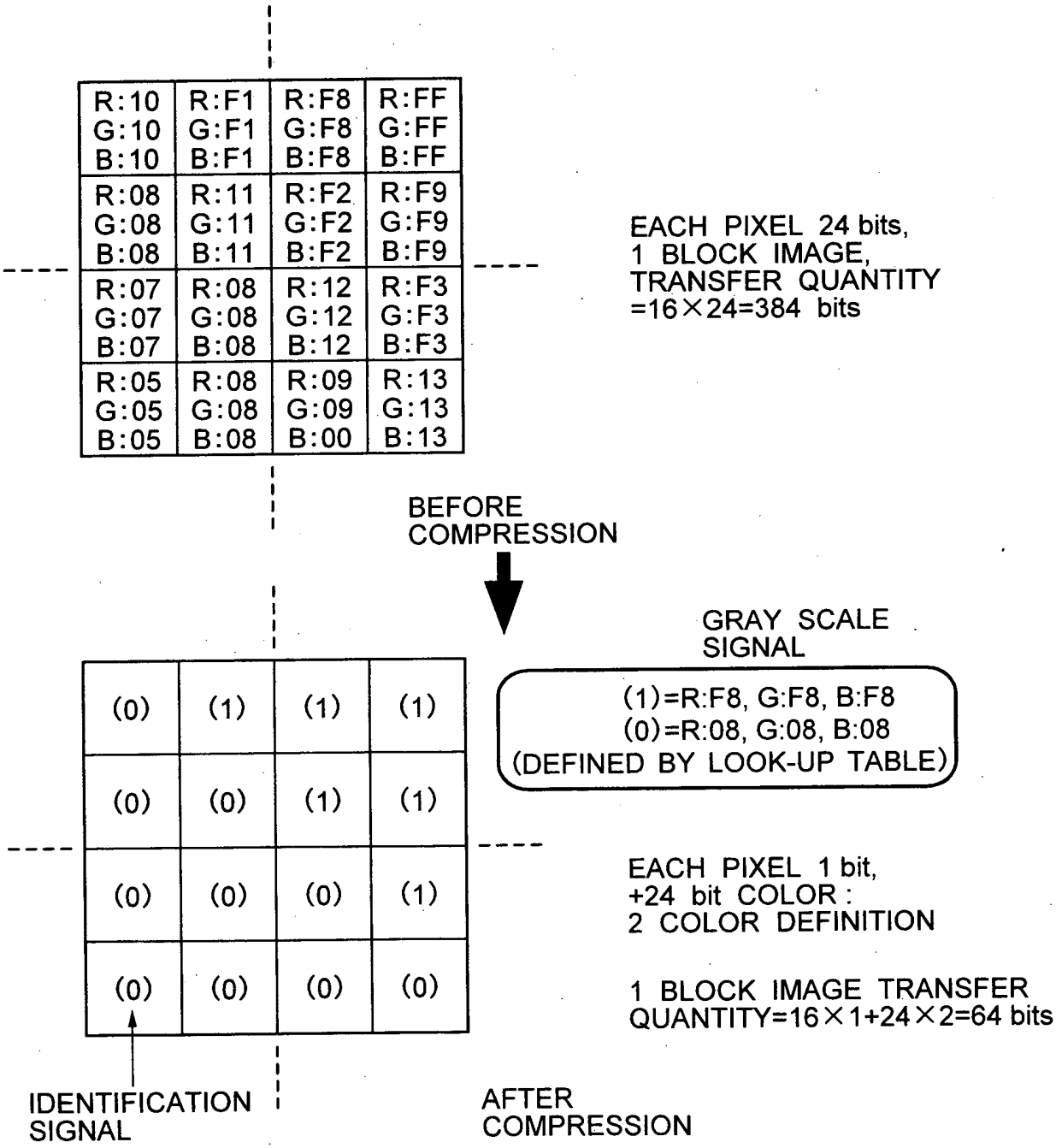

R:10 G:10 B:10
R:F1 G:F1 B:F1
R:F8 G:F8 B:F8
R:FF G:FF B:FF
R:08 G:08 B:08
R:11 G:11 B:11
R:F2 G:F2 B:F2
R:F9 G:F9 B:F9
R:07 G:07 B:07
R:08 G:08 B:08
R:12 G:12 B:12
R:F3 G:F3 B:F3
R:05 G:05 B:05
R:08 G:08 B:08
R:09 G:09 B:00
R:13 G:13 B:13
EACH PIXEL 24 bits,
1 BLOCK IMAGE,
TRANSFER QUANTITY
=16×24=384 bits
BEFORE COMPRESSION
GRAY SCALE SIGNAL
(1)=R:F8, G:F8, B:F8
(0)=R:08, G:08, B:08
(DEFINED BY LOOK-UP TABLE)
(0) (1) (1) (1)
(0) (0) (1) (1)
(0) (0) (0) (1)
(0) (0) (0) (0)
EACH PIXEL 1 bit,
+24 bit COLOR :
2 COLOR DEFINITION
1 BLOCK IMAGE TRANSFER
QUANTITY=16×1+24×2=64 bits
IDENTIFICATION SIGNAL
AFTER COMPRESSION

FIG. 4

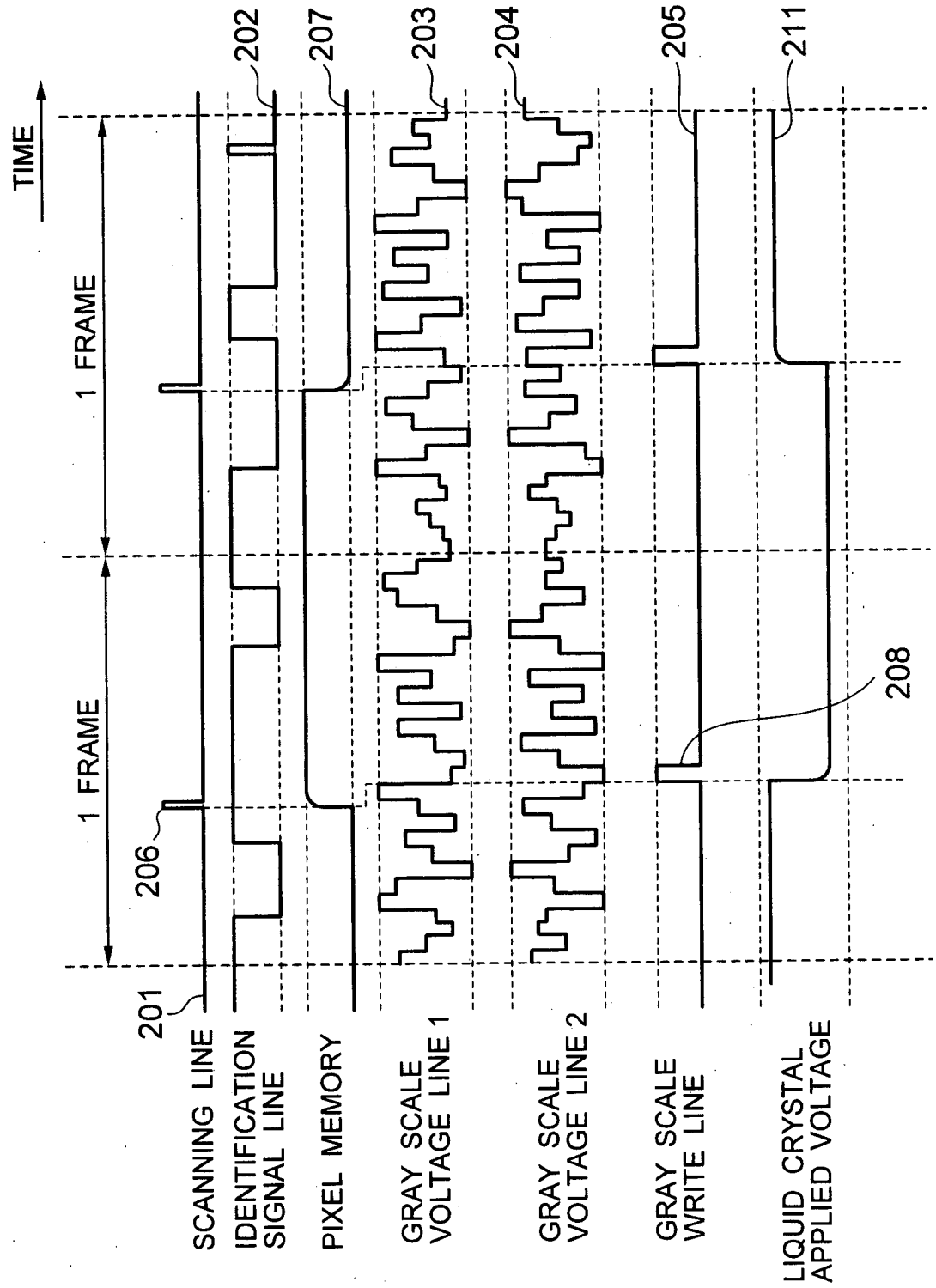

TIME
1 FRAME
1 FRAME
201
206
202
207
203
204
205
211
208
SCANNING LINE
IDENTIFICATION SIGNAL LINE
PIXEL MEMORY
GRAY SCALE VOLTAGE LINE 1
GRAY SCALE VOLTAGE LINE 2
GRAY SCALE WRITE LINE
LIQUID CRYSTAL APPLIED VOLTAGE

FIG. 5

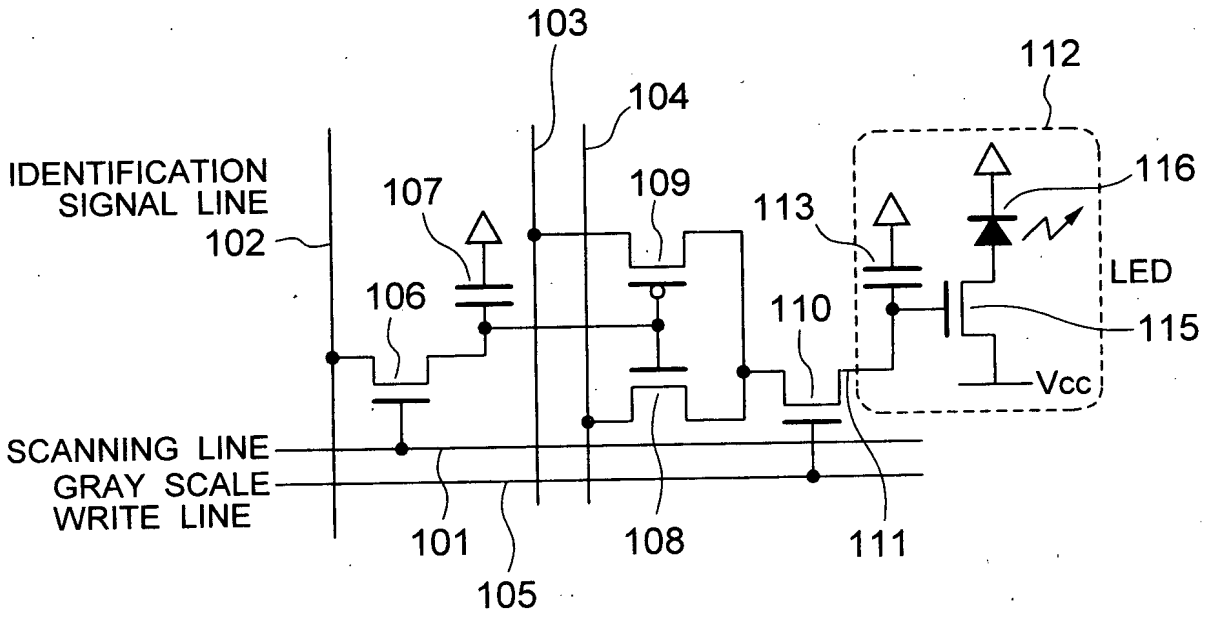

103
104
112
IDENTIFICATION SIGNAL LINE
102
107
109
113
116
LED
106
110
115
Vcc
SCANNING LINE
GRAY SCALE WRITE LINE
101
108
111
105

FIG. 6

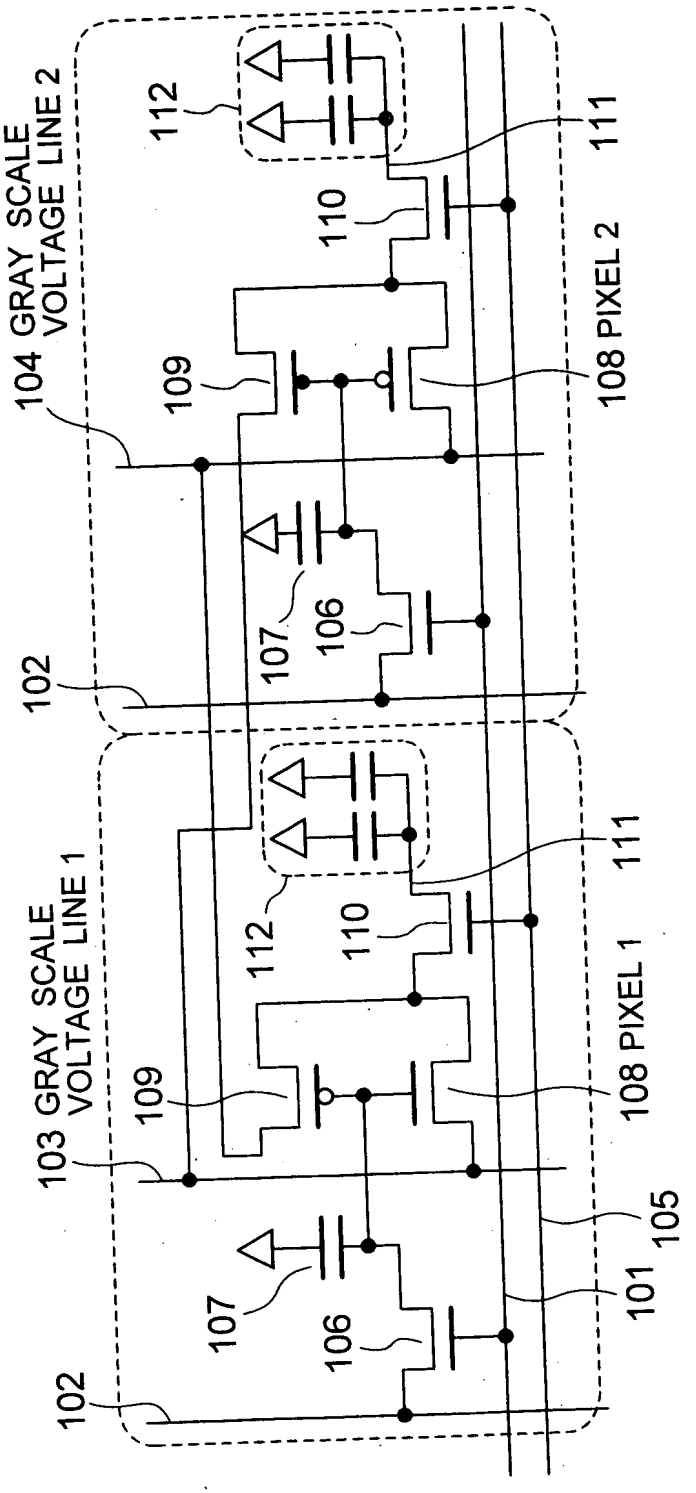

104 GRAY SCALE VOLTAGE LINE 2
103 GRAY SCALE VOLTAGE LINE 1
102
102
101
105
106
107
109
110
111
112
108 PIXEL 2
108 PIXEL 1

FIG. 7

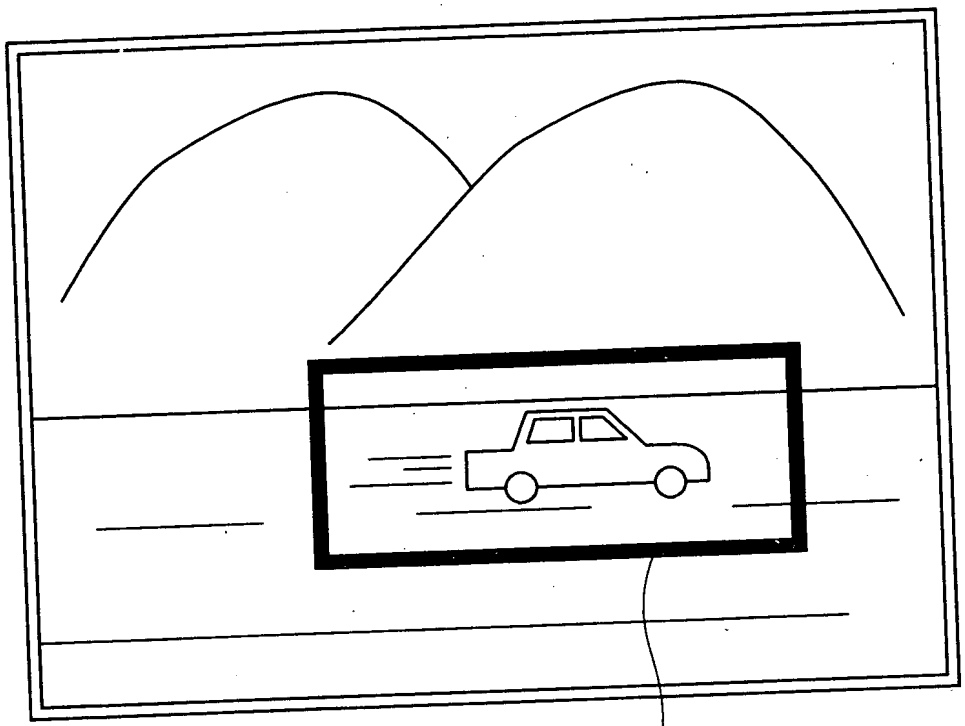


FIG. 8

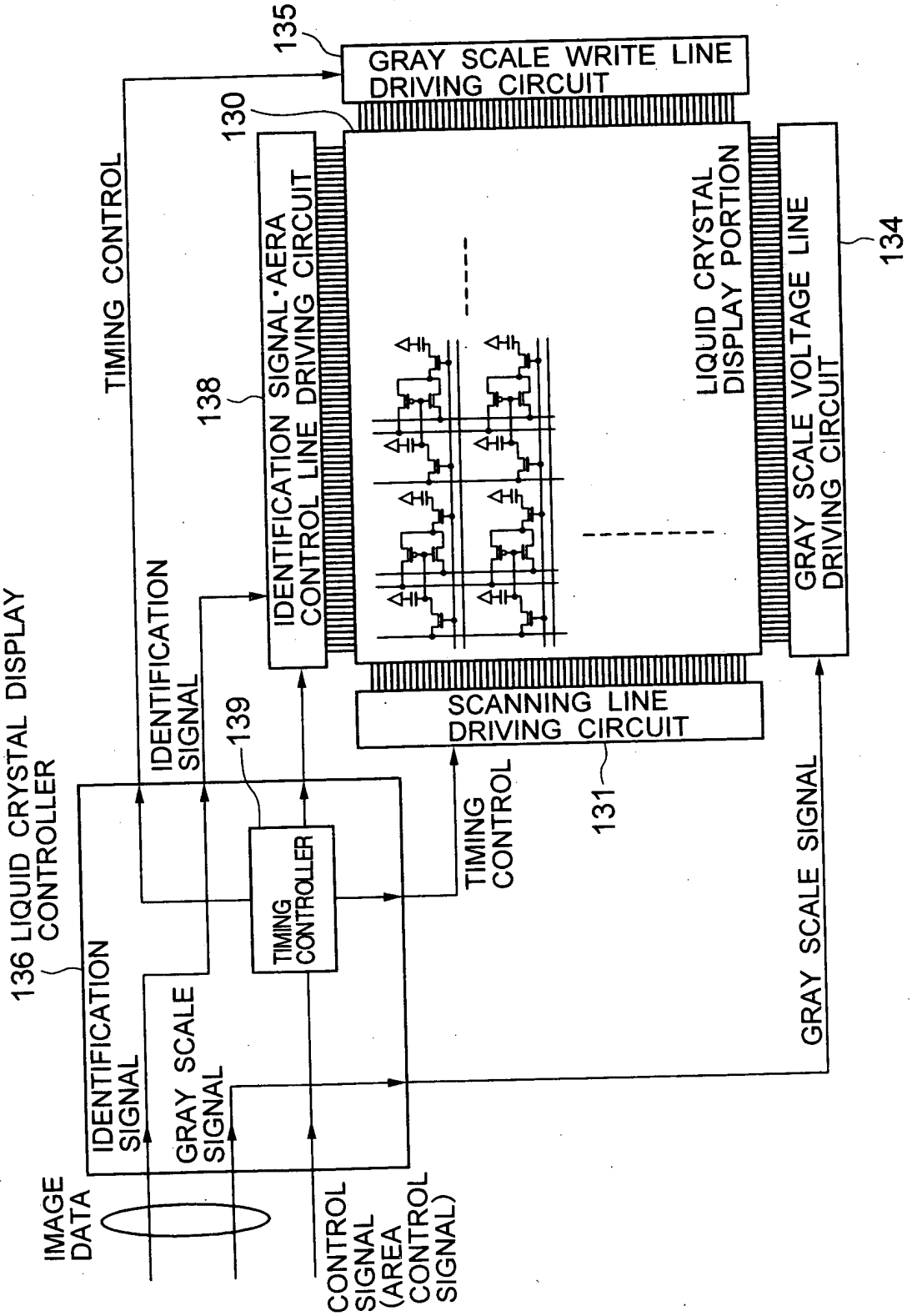

136 LIQUID CRYSTAL DISPLAY CONTROLLER
IDENTIFICATION SIGNAL
GRAY SCALE SIGNAL
IMAGE DATA
CONTROL SIGNAL (AREA CONTROL SIGNAL)
TIMING CONTROLLER
139
IDENTIFICATION SIGNAL
TIMING CONTROL
138
IDENTIFICATION SIGNAL·AERA CONTROL LINE DRIVING CIRCUIT
130
135
GRAY SCALE WRITE LINE DRIVING CIRCUIT
LIQUID CRYSTAL DISPLAY PORTION
134
GRAY SCALE VOLTAGE LINE DRIVING CIRCUIT
GRAY SCALE SIGNAL
SCANNING LINE DRIVING CIRCUIT
131
TIMING CONTROL

FIG. 9

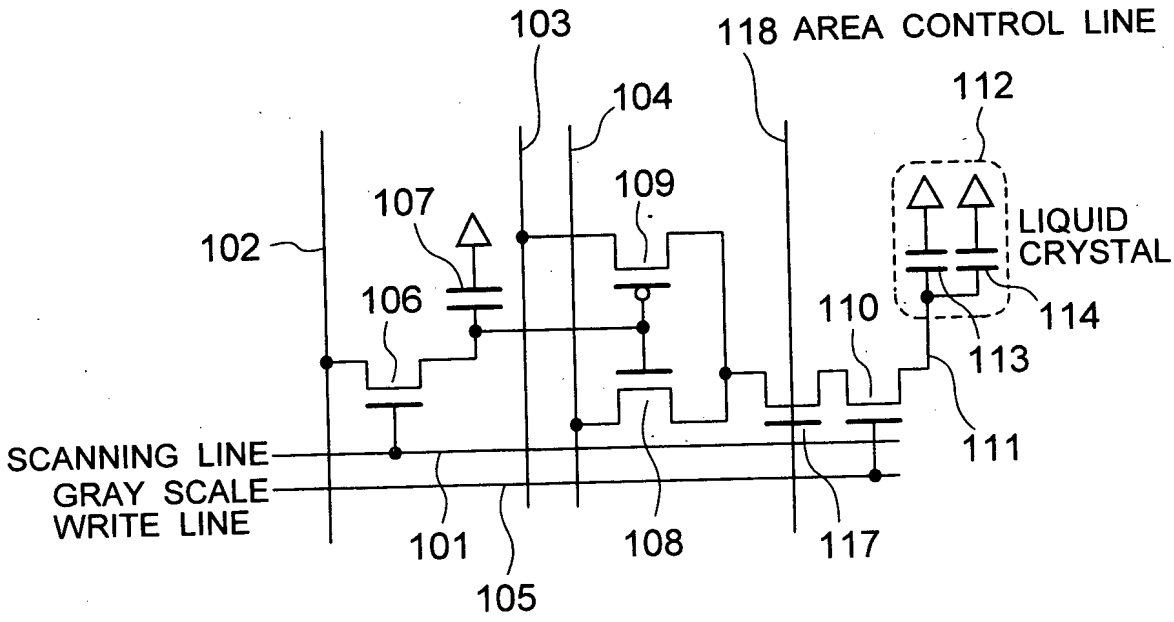

103
118 AREA CONTROL LINE
104
112
107
109
102
LIQUID CRYSTAL
106
110
114
113
111
SCANNING LINE
GRAY SCALE WRITE LINE
101
108
117
105

FIG. 10

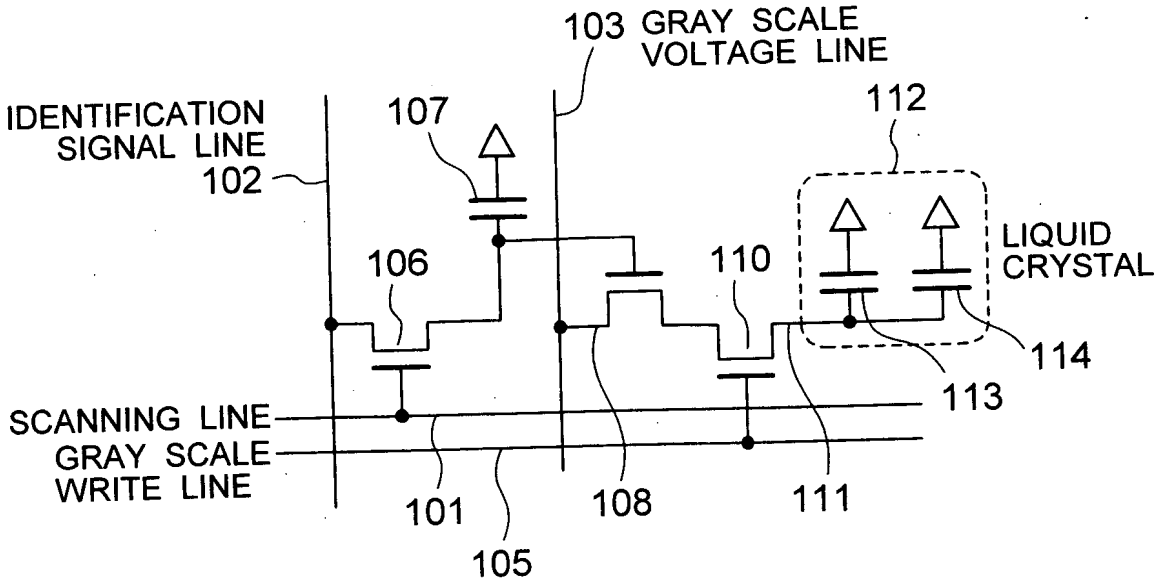

103 GRAY SCALE VOLTAGE LINE
IDENTIFICATION SIGNAL LINE
102
107
112
106
110
LIQUID CRYSTAL
114
113
SCANNING LINE
GRAY SCALE WRITE LINE
101
108
111
105

FIG. 11

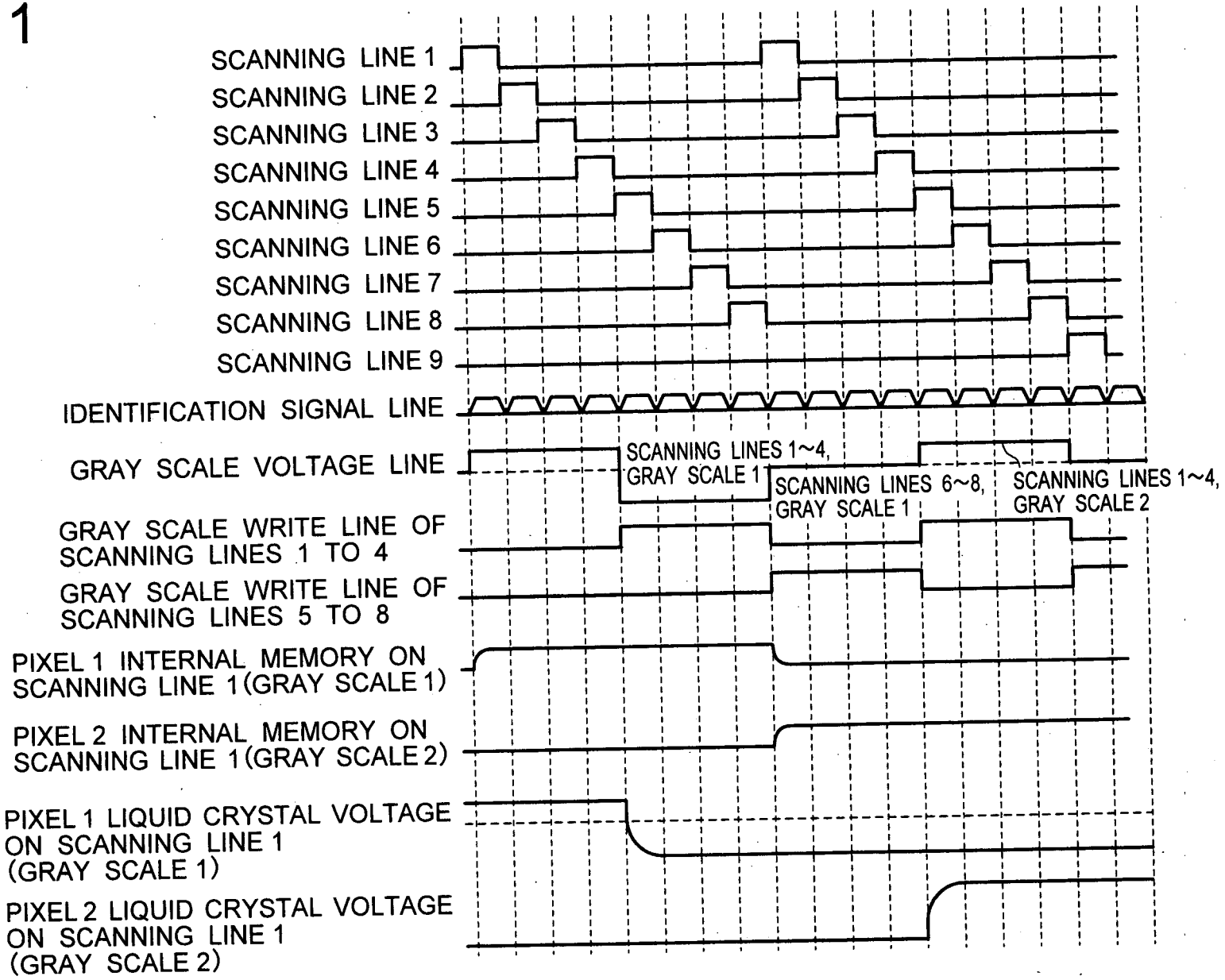

SCANNING LINE 1
SCANNING LINE 2
SCANNING LINE 3
SCANNING LINE 4
SCANNING LINE 5
SCANNING LINE 6
SCANNING LINE 7
SCANNING LINE 8
SCANNING LINE 9
IDENTIFICATION SIGNAL LINE
GRAY SCALE VOLTAGE LINE
SCANNING LINES 1~4, GRAY SCALE 1
SCANNING LINES 6~8, GRAY SCALE 1
SCANNING LINES 1~4, GRAY SCALE 2
GRAY SCALE WRITE LINE OF SCANNING LINES 1 TO 4
GRAY SCALE WRITE LINE OF SCANNING LINES 5 TO 8
PIXEL 1 INTERNAL MEMORY ON SCANNING LINE 1 (GRAY SCALE 1)
PIXEL 2 INTERNAL MEMORY ON SCANNING LINE 1 (GRAY SCALE 2)
PIXEL 1 LIQUID CRYSTAL VOLTAGE ON SCANNING LINE 1 (GRAY SCALE 1)
PIXEL 2 LIQUID CRYSTAL VOLTAGE ON SCANNING LINE 1 (GRAY SCALE 2)

FIG. 12

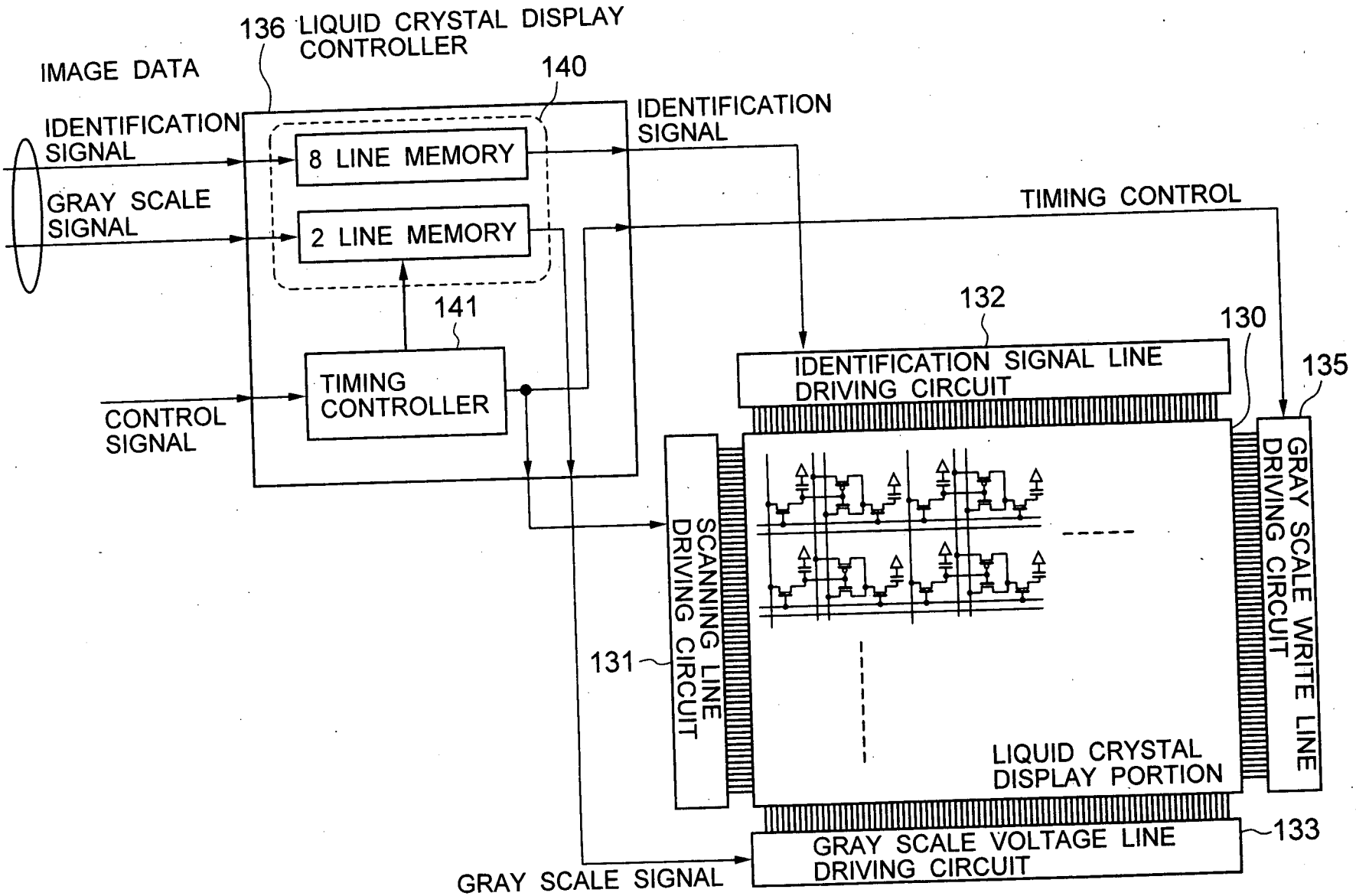

136 LIQUID CRYSTAL DISPLAY CONTROLLER
IMAGE DATA
140
IDENTIFICATION SIGNAL
IDENTIFICATION SIGNAL
8 LINE MEMORY
GRAY SCALE SIGNAL
2 LINE MEMORY
TIMING CONTROL
141
132
130
135
IDENTIFICATION SIGNAL LINE DRIVING CIRCUIT
TIMING CONTROLLER
CONTROL SIGNAL
SCANNING LINE DRIVING CIRCUIT
GRAY SCALE WRITE LINE DRIVING CIRCUIT
131
LIQUID CRYSTAL DISPLAY PORTION
133
GRAY SCALE VOLTAGE LINE DRIVING CIRCUIT
GRAY SCALE SIGNAL

FIG. 13

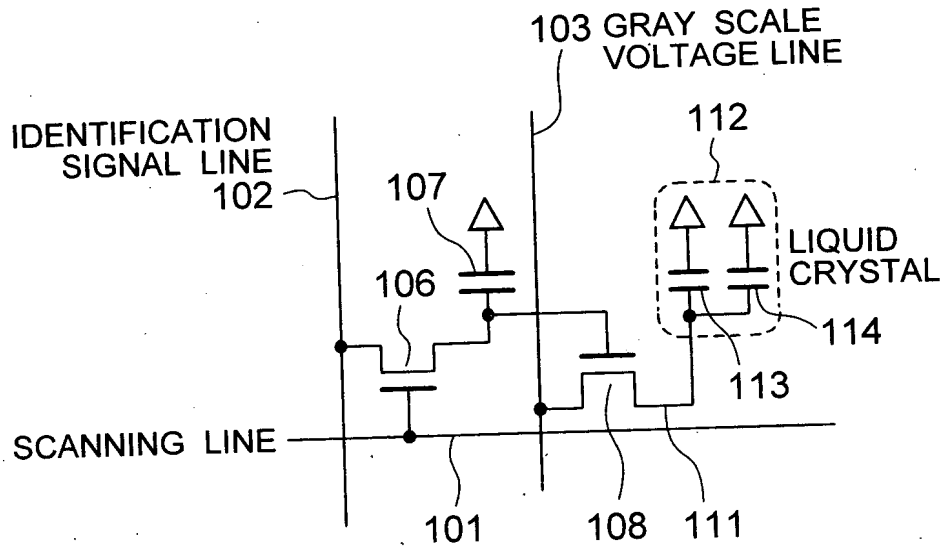

103 GRAY SCALE VOLTAGE LINE
112
IDENTIFICATION SIGNAL LINE 102
107
LIQUID CRYSTAL
106
114
113
SCANNING LINE
101
108
111

FIG. 14

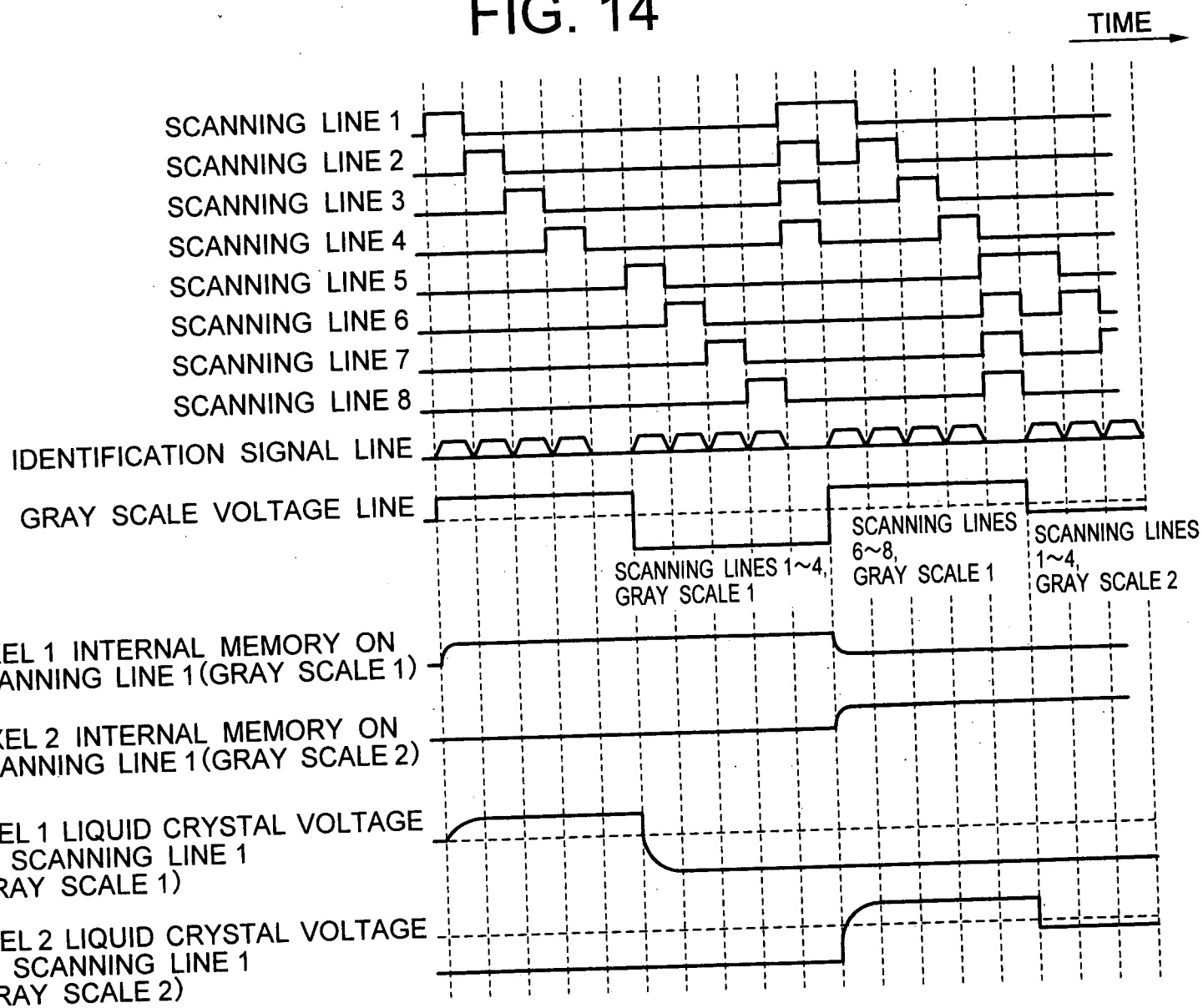


FIG. 15

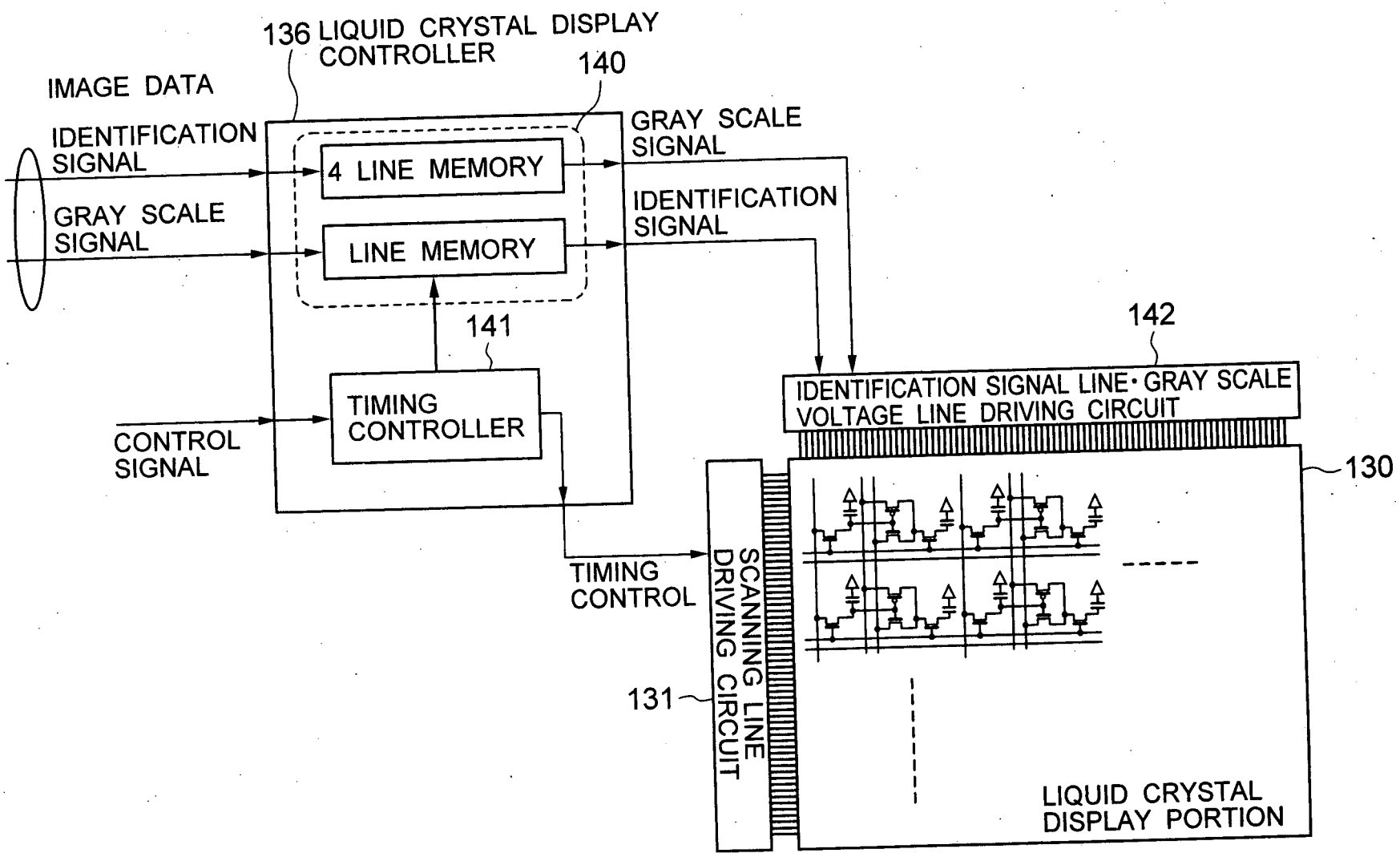
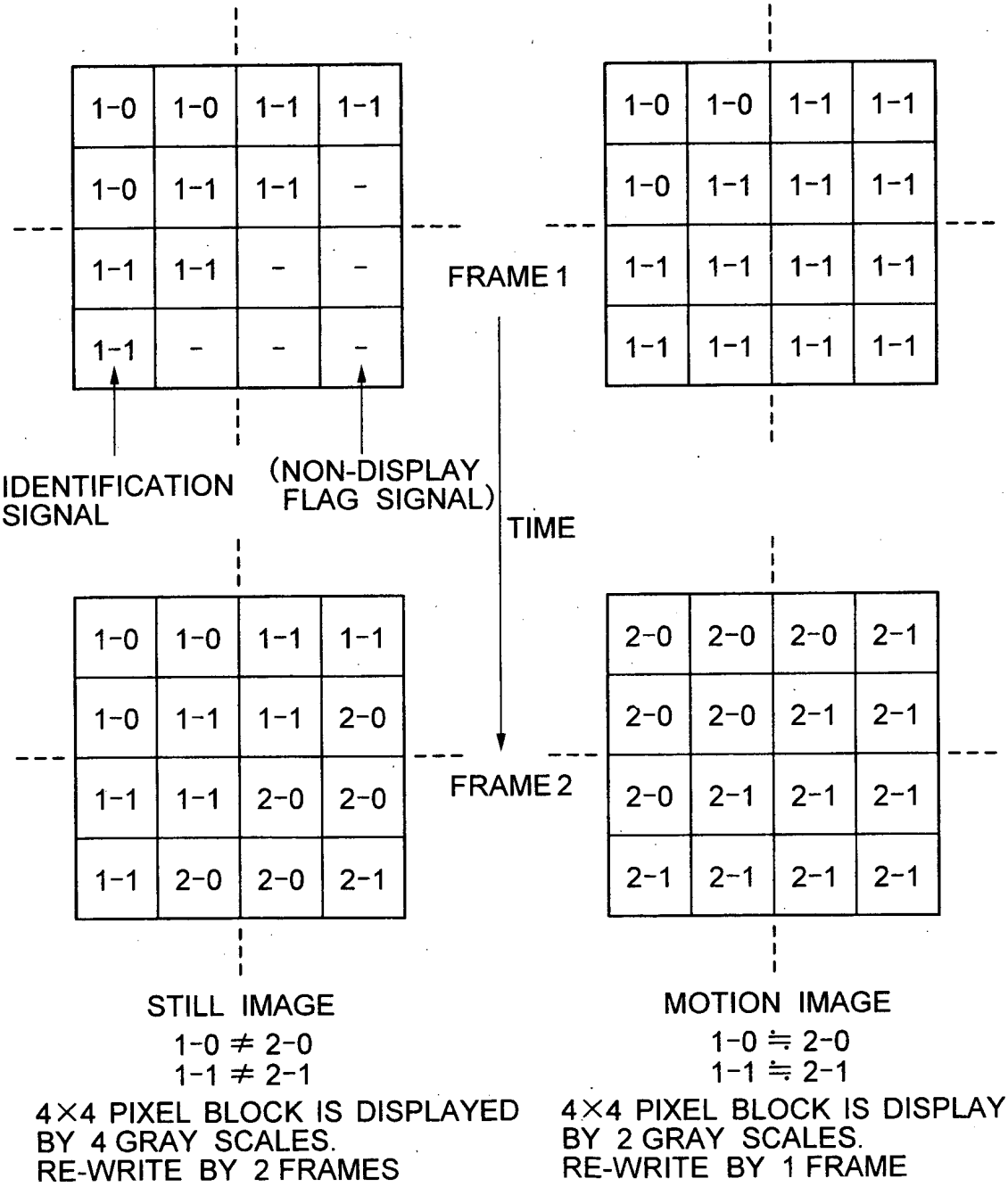

136 LIQUID CRYSTAL DISPLAY CONTROLLER
140
IMAGE DATA
IDENTIFICATION SIGNAL
GRAY SCALE SIGNAL
4 LINE MEMORY
LINE MEMORY
GRAY SCALE SIGNAL
IDENTIFICATION SIGNAL
141
142
TIMING CONTROLLER
CONTROL SIGNAL
IDENTIFICATION SIGNAL LINE· GRAY SCALE VOLTAGE LINE DRIVING CIRCUIT
130
TIMING CONTROL
SCANNING LINE DRIVING CIRCUIT
131
LIQUID CRYSTAL DISPLAY PORTION

FIG. 16


1-0 1-0 1-1 1-1
1-0 1-1 1-1 -
1-1 1-1 - -
1-1 - - -
1-0 1-0 1-1 1-1
1-0 1-1 1-1 1-1
1-1 1-1 1-1 1-1
1-1 1-1 1-1 1-1
FRAME 1
IDENTIFICATION SIGNAL
(NON-DISPLAY FLAG SIGNAL)
TIME
1-0 1-0 1-1 1-1
1-0 1-1 1-1 2-0
1-1 1-1 2-0 2-0
1-1 2-0 2-0 2-1
2-0 2-0 2-0 2-1
2-0 2-0 2-1 2-1
2-0 2-1 2-1 2-1
2-1 2-1 2-1 2-1
FRAME 2
STILL IMAGE
1-0 ≠ 2-0
1-1 ≠ 2-1
4×4 PIXEL BLOCK IS DISPLAYED BY 4 GRAY SCALES.
RE-WRITE BY 2 FRAMES
MOTION IMAGE
1-0 ≒ 2-0
1-1 ≒ 2-1
4×4 PIXEL BLOCK IS DISPLAYED BY 2 GRAY SCALES.
RE-WRITE BY 1 FRAME